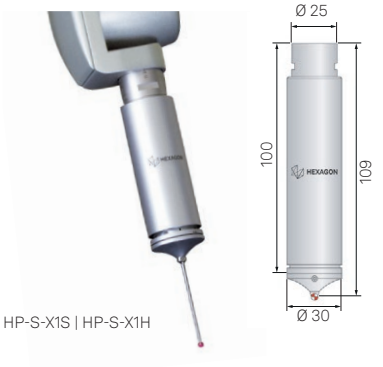
Scanning probes

HP-S-X1S | HP-S-X1H | HP-S-X1C



HP-S-X1S | HP-S-X1H



HP-S-X1C

HP-S-X1 are highly accurate 3D scanning probes that can rapidly and automatically collect thousands of data points for the complete and precise evaluation of all part features, including form, location and size.

HP-S-X1 scanning probes support both single point probing and continuous scanning. HP-S-X1 probes provide simultaneous and unclamped probing in all axes, always orthogonal to the contact surface.

The probes' optional self-centring mode are particularly useful for measuring gears.

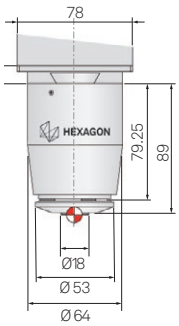
HP-S-X1S and HP-S-X1H are equipped with a kinematic joint, which allows for automated probe changes with the HR-R probe changer rack. Magnetic stylus holders enable fast and repeatable stylus changes using the HP-S-X styli changer rack or the three port unit of the HR-R probe changer rack.

HP-S-X1C is equipped with a dovetail connector for mounting directly into the ram of the machine.

		HP-S-X1S	HP-S-X1H	HP-S-X1C
Scanning probes	Part no.	M00-114-040-000	M00-114-042-000	M00-114-043-000
	Probe type	Analogue	Analogue	Analogue
	Probe connector	TKJ (kinematic joint)	TKJ (kinematic joint)	Centre mounted
	Dimensions	Ø 30 x 109 mm	Ø 30 x 109 mm	Ø 30 x 95 mm
	Weight	100 g	100 g	100 g
	Resolution	< 0.1 µm	< 0.1 µm	< 0.1 µm
	Measuring range	± 2 mm in all axes	± 2 mm in all axes	± 2 mm in all axes
	Linear stiffness	1.2 N/mm	1.2 N/mm	1.2 N/mm
	Stylus holder thread	M3	M3	M3
	Max. stylus weight (Including stylus clamping)	20 g	33 g	33 g
	Max. stylus length	Axial: Up to 115 mm Lateral: Up to 20 mm	Axial: Up to 225 mm Lateral: Up to 100 mm	Axial: Up to 225 mm Lateral: Up to 100 mm

Scanning probe
HP-S-X3





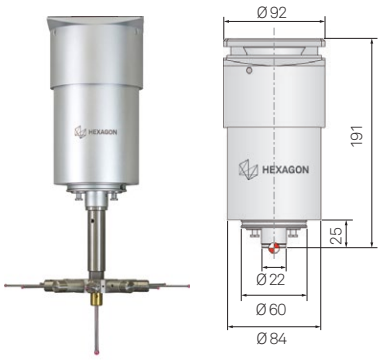
Compact, fast and accurate, the HP-S-X3 offers effective single point probing in all standard metrology tasks as well as continuous high-speed-scanning for form and profile inspection of complex geometric elements (for example, cylinder gears, worm gears, turbine blades, worm screws, and more).

The HP-S-X3's highly sensitive sensor and large linear measuring range ensures excellent precision and extends application possibilities.

HP-S-X3 can carry up to 360 mm long probing extensions. Probe trigger force is measured by high resolution linear variable differential transducers (LVDT), allowing the correct compensation for stylus deflection even when long extensions are fitted and automatic measurement in a direction orthogonal to the part.

	HP-S-X3	
Scanning probe	Part no.	M00-114-039-000
	Probe type	Analogue
	Probe interface	TKJ (kinematic Joint)
	Dimensions	Ø 64 x 89 mm
	Weight	270 g
	Resolution	< 0.1 µm
	Measuring range	± 1 mm in all axes
	Overtravel range	± 1.25 mm in all axes
	Linear stiffness	6 N/mm
	Stylus joint	M5
	Max. stylus weight	150 g (incl. stylus clamping)
	Max. stylus length	Up to 360 mm

Scanning probes
HP-S-X5 | HP-S-X5HD



The HP-S-X5 fixed scanning probe is optimised for measuring the tightest of tolerances. Offering very high precision and repeatability, HP-S-X5 enables true 3D probing, capable of simultaneously measuring in the X, Y and Z directions. This analogue probe is well-suited to performing single point probing and continuous high-speed scanning for profile and shape error inspection of complex geometric parts.

The HP-S-X5's motor-free design means there are no heat sources within the probe, helping to ensure results are unaffected by temperature changes. The probe is protected by its robust design and effective anti-collision system, reducing downtime. The probe reduces errors in results with its compensation system that accurately adjusts for the stylus deflection even when long extensions are fitted.

HP-S-X5's dovetail connection allows fast and easy change of the probe when performing maintenance work.

As an option, a workpiece temperature sensor (WTS) can be swapped into the probe automatically.

		HP-S-X5	HP-S-X5HD
Scanning probes	Part no.	M00-114-031-000	M00-114-024-000
	Probe type	Analogue	Analogue
	Position	Centre mounted	Centre mounted
	Probe interface	Dovetail connector	Dovetail connector
	Dimensions	Ø 84 x 191 mm	Ø 84 x 191 mm
	Weight	1 080 g	1 080 g
	Resolution	< 0.1 µm	< 0.1 µm
	Measuring range	± 1 mm in all axes	± 1 mm in all axes
	Overtravel range	± 2 mm in all axes	± 2 mm in all axes
	Linear stiffness	5 N/mm	5 N/mm
	Stylus joint	M5	M5
	Max. stylus weight	500 g (Incl. Stylus clamping)	650 g (Incl. stylus clamping)
	Max. stylus length	Up to 500 mm	Up to 800 mm
	Collision protection	Standard	Standard
	Air supply	0.5 MPa	0.5 MPa
	Part temperature sensor	Optional	Optional
	Profiler R (tactile roughness sensor)	Not compatible	Optional

Temperature sensor
For HP-S-X5



The exchangeable HP-S-X5 temperature sensor enables fast automatic measurement of workpiece temperature.

By using the various modules available (joints and extensions), users can assemble any configuration necessary to measure temperature, even on inclined surfaces. This allows the sensor to be set up to fulfil the unique requirements of any measuring task.

The sensor can be stored in a rack just like any other stylus configuration and can be loaded automatically within a part program. An integrated electrical interface connects the sensor with the probe head and the electronics of the CMM.

	Part temperature sensor for HP-S-X5	
Temperature sensor	M00-741-073-000	Exchangeable temperature sensor basis kit (incl. clamping and sensor), calibrated
	M00-741-079-000	Exchangeable temperatur sensor complete kit (incl. clamping, sensor, joint, extension), calibrated
	M00-741-062-150	Extension
	M00-741-062-050	Joint